BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH **SEMESTER : VI**
BRANCH: BIOTECHNOLOGY **SESSION : SP/2025**

SUBJECT: BE403 PLANT & AGRICULTURAL BIOTECHNOLOGY

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	How to design a Plant Tissue Culture laboratory facility, discuss.	[5]	4,5	6
Q.1(b)	Discuss about the contamination in plant tissue culture experiments. Describe the measures need to remove the contamination?	[5]	1,2	2
Q.2(a)	*Taxus buccata* plant is producing anticancer drug Taxol in its bark. Evaluate the techniques and measures you suggest for conservation of the said plant and reducing its environmental impact?	[5]	CO 7,8	5
Q.2(b)	Analyse and interpret the basis of explant selection for a set of experiments to achieve mass multiplication of endangered plants.	[5]	CO6	3
Q.3(a)	Compare somatic embryogenesis with zygotic embryogenesis.	[5]	CO2	4
Q.3(b)	Apply your knowledge of plant tissue culture for crop improvement programme utilizing flower buds as an explant source in terms of expression of recessive traits.	[5]	CO6	3
Q.4(a)	Define the term “Embryo rescue”. Diagrammatically explain the strategy to follow for protection of hybrid embryo.	[5]	CO3	3
Q.4(b)	Utilizing the sills of plant tissue culture, organize and relate the strategy undertaken to overcome the limitations associated with pre & post fertilization barriers.	[5]	CO3	4
Q.5(a)	Analyse and discuss the limitations associated with the selection of bacterial system as a host for production of recombinant proteins.	[5]	CO4,5	4
Q.5(b)	List the approaches involved in degradation of desired mRNA or inhibition of protein synthesis. Sketch out and relate the method adopted thereof.	[5]	CO6,7	3

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